

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/06697

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 31/395, 31/505; C07D 215/16, 239/95.

US CL : 514/266.21, 266.4, 232.8, 299; 544/116, 230, 231, 284 and 293.

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 514/266.21, 266.4, 232.8, 299; 544/116, 230, 231, 284 and 293.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
CAPLUS and EAST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,034,393 (HACKLER et al) 23 July 1991 (23.07.1991), columns 1-2, formula I.	12-16, 26-28 and 40-42
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A	US 5,436,233 A (LEE et al) 25 July 1995 (25.07.1995), columns 4-6.	12-16, 26-28 and 40-42.
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A	US 5,326,766 A (DREIKORN et al) 05 July 1994 (05.07.1994), columns 1-2.	12-16, 26-28 and 40-42.
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A	US 5,112,817 A (FUKAZAWA et al) 12 May 1992 (12.05.1992), columns 1-4.	12-16, 26-28 and 40-42.
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A	US 4,694,000 A (TIMMERMAN et al) 15 September 1987 (15.09.1987), column 1.	12-16, 26-28 and 40-42.

☒ Further documents are listed in the continuation of Box C.

See patent family annex.

## \* Special categories of cited documents:

"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

25 May 2005 (25.05.2005)

Date of mailing of the international search report

18 JUL 2005

Name and mailing address of the ISA/US

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## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 4,352,928 A (HIRANUMA et al) 05 October 1982 (05.10.1982), columns 1-2.	12-16, 26-28 and 40-42.
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A	US 3,971,783 A (BARNISH et al) 27 July 1976 (27.07.1976), columns 1-2.	12-16, 26-28 and 40-42.

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 49-96  
because they relate to subject matter not required to be searched by this Authority, namely:  
Please See Continuation Sheet
2. ☒ Claims Nos.: 1-11, 17-25, 29-39 and 43-48  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
Please See Continuation Sheet
3. ☒ Claims Nos.: 52-61, 63, 65-67, 69-71, 73-79, 81, 83, 85, 87  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐  
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

Box II Observations where certain claims were found unsearchable 1. because they relate to subject matter not required to be searched by this Authority, namely:

Claims 49-50 are drawn to a pharmaceutical composition. Claims 51-96 are drawn to various methods of treatment or use. The search has been carried out and based on the alleged effects of the compound.

Continuation of Box II Reason 2:

Claims 1, 17, and 32 are independent claims drawn to compounds of a bicyclic system substituted with a ring containing  $A_1-A_5$ . Variables  $A_1-A_5$  are defined in term of N or  $CR_a$ . Variable  $R_a$  is defined in terms of hydrogen,  $R_b$  and "*groups that are taken together with an adjacent  $R_a$  to form a...ring.*" It is unclear what "*groups*" are taken together. Furthermore,  $R_a$  can also form a ring with  $R_3$ , and thus, it is unclear if a tricyclic system is also intended for the fused ring containing  $A_1-A_5$ . Because of the ambiguity in the definitions of  $R_a$  and  $A_1-A_5$ , and the uncertainty in the number of rings, no meaningful search can be carried out for the compounds recited in claims 1, 17 and 32.

Claims 2-11, 18-25, 29-31, 33-39, 43-48 depend on claim 1, or 17 and/or 32 for the definition of  $R_a$ , and the ring containing  $A_1-A_5$ , and thus, the compounds recited in said claims cannot be searched either.

Claims 52-61, 63, 65-67, 69-71, 73-79, 81, 83, 85, 87 are improper multiple dependent claims.